

Age-related peculiarities of inotropic response of rat myocardium to selective block of M1-cholinoreceptors

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Abstract

In vitro effect of M1-cholinoreceptor blockade on the cardiac inotropic function was examined in rats aging 1, 3, 6, 8, and 20 weeks. In 1- and 3-week old rat pups, the sympathetic control of the heart has not developed, the age of 7-8 weeks being pubertal. Adult 20-week rats were used as the controls. In rats of all age groups, preliminary blockade of M1-cholinoreceptors did not prevent the inhibitory effect of carbacholine on contractility of the atrial and ventricular myocardium. The inhibitory effect of pirenzepine on the contractile force of ventricular myocardium was revealed in 6-week rats. © 2013 Springer Science+Business Media New York.

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Keywords

heart, inotropy, muscarinic cholinoreceptors, postnatal ontogeny, rat